

## WHAT IS CLAIMED IS:

1. A microscope comprising:
  - an optical path;
  - a magazine having a plurality of receiving areas;
  - 5 a plurality of assemblies, each of said plurality of assemblies being accommodated by a respective one of said plurality of receiving areas for selective positioning in said optical path by operation of said magazine;
  - a plurality of transponders associated one with each of said plurality of assemblies, wherein each of said plurality of transponders includes stored data;
  - 10 and
  - a reader unit for reading said stored data of a transponder associated with an assembly positioned in said optical path.
2. The microscope according to Claim 1, further comprising a writer unit for writing data into any one of said plurality of transponders.
- 15 3. The microscope according to Claim 1, wherein each of said plurality of assemblies includes a slide.
4. The microscope according to Claim 1, wherein each of said plurality of assemblies includes a filter.
5. The microscope according to Claim 1, further comprising a motor connected  
20 to said magazine for moving said magazine.
6. The microscope according to Claim 1, further comprising an electronic control unit connected to said reader unit for controlling processes as a function of said data read by said reader unit.
7. The microscope according to Claim 1, further comprising an electronically  
25 operated shutter for selectively blocking said optical path.

8. The microscope according to Claim 1, wherein said microscope is designed for fluorescence measurements.

9. The microscope according to Claim 1, wherein said microscope is a stereomicroscope.

5 10. An assembly adapted to be held by a magazine of a microscope, said assembly comprising:

at least one component intended to be positioned in an optical path of said microscope by operation of said magazine; and

10 a transponder located elsewhere on said assembly from said at least one component.

11. The assembly according to Claim 10, wherein said at least one component includes a filter.

12. The assembly according to Claim 10, wherein said at least one component includes a slide.

15 13. A process for carrying out a selected investigation using a microscope having at least one magazine with receiving areas for respectively accommodating assemblies, said magazine enabling a chosen assembly to be positioned in an optical path of the microscope, said process comprising the steps of:

20 providing transponders respectively associated with said assemblies, each of said transponders including stored data;

reading said stored data of a transponder associated with an assembly in said optical path; and

conducting said investigation in accordance with said read data.

25 14. The process according to Claim 13, further comprising the steps of reading reference data corresponding to said selected investigation, comparing said read data

with said reference data, and stopping said investigation if said read data does not match said reference data for said selected investigation.

15. The process according to Claim 13, wherein data are written into said transponders by a writer unit.

5 16. The process according to Claim 13, wherein a fluorescence measurement is carried out.

17. The process according to Claim 13, wherein a shutter is operated based on said read data.

10 18. The process according to Claim 13, further comprising the step of storing said read data.

19. The process according to Claim 18, further comprising the step of using said read data that have been stored to provide operational data.

20. A computer-executable process comprising the steps of:  
reading data provided by a transponder associated with a filter in an  
15 optical path of a microscope;  
reading filter data from a database, said filter data corresponding to a selected microscopy investigation;  
comparing said data provided by said transponder with said filter data; and  
20 opening a shutter in said optical path if said data provided by said transponder match said filter data.

21. A computer-readable storage medium storing computer executable instructions for performing the steps of:  
reading data provided by a transponder associated with a filter in an  
25 optical path of a microscope;

reading filter data from a database, said filter data corresponding to a selected microscopy investigation;

comparing said data provided by said transponder with said filter data; and

5 opening a shutter in said optical path if said data provided by said transponder match said filter data.